

WHIZZKID INTERNATIONAL SR. SEC. SCHOOL
SUMMER HOLIDAY HOMEWORK-CLASS-IX
SESSION: 2021-22



ENGLISH

- I. Extract information about the life of any four eminent personality then write his/her Bio-sketch in 100 words.
 - II. Read the story The Adventure of Toto and In the Kingdom of Fools from your Supplementary Textbook “ Moments”. Then present the main themes and characters of the stories using a web chart/ mind map. The distinctive character traits of the main characters, main theme should be neatly organised.
 - III. Make a slogan on A4 sheet on the “Importance of a Girl Child in our society”. Paste pictures also.
 - IV. Telephone is one of the most important means of communication today. But it has also become a nuisance for some. Write an article on the topic: “Telephone is a Nuisance”.
 - V. Write a report on the topic “Plight of migrant workers during COVID pandemic”.
- Hints: What are some of the challenges faced by migrant workers during this pandemic?
Describe the ways in which they are overcoming the pandemic situation.
Mention some of the Govt. schemes announced to support the migrant workers.

Suggested Reading : Animal Farm

<http://gutenberg.net.au/ebooks01/0100011h.html>

We at Whizzkid encourage reading for all students, for all of its various benefits, some of them being inculcating empathy, improving communication skills, and expansion of vocabulary. Although we encourage students to read physical copies of books (their own or of the school's library), keeping in mind the limitations imposed by the pandemic, we are providing students with links to the e-book they are being assigned to read for the summer holidays.

The assignment related to the assigned reading is as follows:

1. Write a 3-5 page book report.
2. Make a list of all difficult/unfamiliar words you came across in the book.

Please note: Plagiarism of any kind would not be tolerated, please write an original book report. Originality is valued over proficiency in this particular assignment.

हिन्दी

- * 'कोरोना : एक महामारी' विषय पर 7-8 शीट (A-4) पर निम्नलिखित बिन्दुओं का प्रयोग करते हुए एक परियोजना कार्य तैयार करें। जैसे-
- 'कोरोना वायरस' परिचय।
- कोरोना वायरस से प्रभावित देश-दुनिया का जन-जीवन।
- समाज पर इसका सकारात्मक व नकारात्मक प्रभाव।
- * समाज की किसी ज्वलंत समस्या संबन्धित एक स्वरचित कविता या कहानी A-4 शीट पर



पाठन के सुझाव

<https://www.pustak.org/index.php/books/bookdetails/4432/Vardaan>

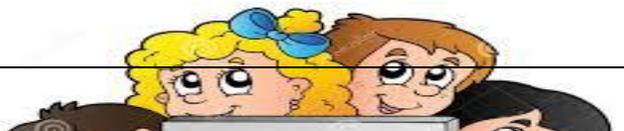
<https://www.hindisamay.com/content/437/1/%E0%A4%A7%E0%A4%B0%E0%A5%8D%E0%A4%AE%E0%A4%B5%E0%A5%80%E0%A4%B0-%E0%A4%AD%E0%A4%BE%E0%A4%B0%E0%A4%A4%E0%A5%80--%E0%A4%89%E0%A4%AA%E0%A4%A8%E0%A5%8D%E0%A4%AF%E0%A4%BE%E0%A4%B8-%E0%A4%97%E0%A5%81%E0%A4%A8%E0%A4%BE%E0%A4%B9%E0%A5%8B%E0%A4%82-%E0%A4%95%E0%A4%BE-%E0%A4%A6%E0%A5%87%E0%A4%B5%E0%A4%A4%E0%A4%BE.csp>

अपने शब्दों में पढ़ी गई किताब का सार लिखें।

MATHEMATICS

1. Find a rational number between
(i) $\frac{3}{8}$ and $\frac{2}{5}$ (ii) 1.3 and 1.4

2. Find six rational numbers between 2 and 3.
3. State whether the following statements are true or false. Give reasons for your answer.
 - (i) Every natural number is a whole number.
 - (ii) Every whole number is a natural number.
4. Write actual division, find which of the following rational numbers are terminating decimals.
 - (i) $\frac{13}{80}$ (ii) $\frac{7}{24}$ (iii) $\frac{31}{375}$
5. Express each of the following decimals in the form $\frac{p}{q}$, where p, q are integers and $q \neq 0$.
 - (i) $0.\overline{2}$ (ii) $0.5\overline{3}$ (iii) $2.9\overline{3}$
6. Classify the following numbers as rational or irrational. Give reasons to support your answer.
 - (i) $\sqrt{361}$ (ii) $\sqrt{21}$ (iii) $\sqrt{1.44}$ (iv) 4.1276 (v) 2.356565656
7. Insert a rational and an irrational number between 2 and 2.5.
8. Add:
 - (i) $(2\sqrt{3}-5\sqrt{2})$ and $(\sqrt{3}+2\sqrt{2})$ (ii) $(2\sqrt{2}+5\sqrt{3}-7\sqrt{5})$ and $(3\sqrt{3}-\sqrt{2}+\sqrt{5})$
9. Multiply:
 - (i) $3\sqrt{5}$ by $2\sqrt{5}$ (ii) $6\sqrt{15}$ by $4\sqrt{3}$
10. Represent $\sqrt{7.2}$ geometrically on the number line.
11. Locate $\sqrt{3}$ on the number line.
12. Examine whether the following numbers are rational or irrational:
 - (i) $(5-\sqrt{5})(5+\sqrt{5})$ (ii) $(\sqrt{3} + 2)^2$
13. Visualize the representation of 3.765 on the number line using successive magnification.
14. Write the rationalising factor of the denominator in $\frac{1}{\sqrt{2}+\sqrt{3}}$.
15. Find rational numbers a and b such that $\frac{\sqrt{2}-1}{\sqrt{2}+1} = a + b\sqrt{2}$.
16. Identify constant, linear, quadratic, cubic and quartic polynomials from the following.
 - (i) $-7 + x$ (ii) $6y$ (iii) $-z^3$ (iv) $1 - y - y^3$ (v) $x - x^3 + x^4$
17. (i) Give an example of a monomial of degree 5.
(ii) Give an example of a binomial of degree 8
18. If $p(x) = 5 - 4x + 2x^2$, find (i) $p(0)$, (ii) $p(3)$
19. Verify that
 - (i) 1 and 2 are the zeros of the polynomial $p(x) = x^2 - 3x + 2$.
 - (ii) 2 and -3 are the zeros of the polynomial $q(x) = x^2 + x - 6$.
20. Find the zero of the polynomial:
 - (i) $p(x) = x - 5$ (ii) $q(x) = x + 4$
21. By actual division, find the quotient and the remainder when $(x^4 + 1)$ is divided by $(x - 1)$.
22. Find the value of k for which $(x - 1)$ is a factor of $(2x^3 + 9x^2 + x + k)$.



23. Factorize: $18x^2y - 24xyz$
24. Factorize: $px - 5q + pq - 5x$
25. Factorize: $27a^2 - 48b^2$
26. Factorize: $4x^2 + 16y^2 + 64z^2 + 16xy + 64yz + 32xz$
27. Factorize: $9x^2 + 16y^2 + 4z^2 - 24xy + 16yz - 12xz$
28. On the plane of a graph paper plot each of the following points.
 (i) $A(5, 3)$ (ii) $B(6, 2)$ (iii) $C(-5, 3)$ (iv) $D(4, -6)$ (v) $E(-3, -2)$
29. For each of the following points, write the quadrant in which it lies
 (i) $(-6, 3)$ (ii) $(-5, -3)$ (iii) $(11, 6)$ (iv) $(1, -4)$

Plot the points $A(2, 5)$, $B(-2, 2)$ and $C(4, 2)$ on a graph paper. Join AB , BC and AC . Calculate the area of $\triangle ABC$.

30. Express $1.363636\dots$ in the form p/q , where p and q are integers and $q \neq 0$.

31. Simplify: $(\sqrt{5} + \sqrt{2})^2$.

32. Identify a rational number among the following numbers :
 $2 + \sqrt{2}$, $2\sqrt{2}$, 0 and π

33. Simplify : $\sqrt{45} - 3\sqrt{20} + 4\sqrt{5}$

34. Find 'x', if $2^{x-7} \times 5^{x-4} = 1250$



35. Write each of the following in decimal form and say what kind of decimal expansion each has. (i) $\frac{11}{24}$ (ii) $\frac{26}{1400}$

36. Give an example of two irrational numbers whose

- (i) difference is an irrational number.
 (ii) difference is a rational number.

37. Examine whether the following numbers are rational or irrational.

- (i) $\sqrt{\frac{13}{117}}$ (ii) $\sqrt{8 \times \sqrt{2}}$

38. Insert a rational and an irrational number between 3 and 3.5

39. Visualize the representation of $4.\overline{67}$ on the number line up to 4 decimal places.

40. Write the rationalising factor of the denominator in $\frac{1}{\sqrt{5} + \sqrt{6}}$.

41. Add: $(5\sqrt{2} + 5\sqrt{3} - 7\sqrt{5})$ and $(2\sqrt{3} - 4\sqrt{2} + \sqrt{5})$.

42. Multiply: $\sqrt{10}$ by $\sqrt{40}$.

43. Divide: $18\sqrt{21}$ by $6\sqrt{7}$

44. Simplify $(\sqrt{5} - \sqrt{3})^2$

45. Simplify $(3 + \sqrt{3})(2 + \sqrt{2})^2$

46. If $x = 2 - \sqrt{3}$, find value of $x + \frac{1}{x}$.

47. If $x = 9 - 4\sqrt{5}$, find the value of $x^2 + \frac{1}{x^2}$.

48. If $x = \sqrt{13} + 2\sqrt{3}$, find the value of $x - \frac{1}{x}$.

49. Simplify $2^{1/2} \times 2^{1/3}$

50. Simplify: $6^{1/4} \div 6^{1/5}$

51. Simplify: (i) $(3^4)^{1/4}$ (ii) $(3^{1/3})^4$

52. Evaluate $(125)^{1/3}$

53. Simplify $(14641)^{0.25}$

54. Find the value of x : $5^{x-3} \times 3^{2x-8} = 225$

55. Factorise : $125x^3 - 64y^3$

56. Find the value of $(x + y)^2 + (x - y)^2$.

57. If $p(x) = x^2 - 2\sqrt{2}x + 1$, then find the value of $p(2\sqrt{2})$.



58. Find the value of m , if $x + 4$ is a factor of the polynomial $x^2 + 3x + m$.
59. Find the remainder when $x^3 + x^2 + x + 1$ is divided by $x - 1/2$ using remainder theorem.
60. Find the common factor in the quadratic polynomials $x^2 + 8x + 15$ and $x^2 + 3x - 10$.
61. Expand :
- (i) $(y - \sqrt{3})^2$
(ii) $(x - 2y - 3z)^2$
62. Show that $p - 1$ is a factor of $p^{10} + p^8 + p^6 - p^4 - p^2 - 1$.
63. If $3x + 2y = 12$ and $xy = 6$, find the value of $27x^3 + 8y^3$.
64. Factorise : $1 - 2ab - (a^2 + b^2)$.
65. Factorise $64a^3 - 27b^3 - 144a^2b + 108ab^2$.
66. What are the possible expressions for the dimensions of a cuboid whose volume is given below ?
Volume = $12ky^2 + 8ky - 20k$
67. If $p(x) = x^3 + 3x^2 - 2x + 4$, then find the value of $p(2) + p(-2) - P(0)$.
68. If one zero of the polynomial $x^2 - \sqrt{3}x + 40$ is 5, which is the other zero ?
69. If $x - 3$ is a factor of $x^2 - 6x + 12$, then find the value of k . Also, find the other factor of the $-$ polynomial for this value of k .
70. Find a and b so that the polynomial $x^3 - 10x^2 + ax + b$ is exactly divisible by the polynomials $(x - 1)$ and $(x - 2)$.
71. Factorise : $x^3 - 6x^2 + 11x - 6$.
72. Factorise : $6x^3 - 5x^2 - \sqrt{3}x + 12$.
73. What must be added to polynomial $f(x) = x^4 + 2x^2 - 2x^2 + x - 1$ so that resulting polynomial is exactly divisible by $x^2 + 2x - 3$?

74. If $(x - a)$ is a factor of the polynomials $x^2 + px - q$ and $x^2 + rx - t$, then prove that $a = \frac{t-q}{r-p}$.

75. If $p(x) = 5 - 5x + 3x^2$, find (i) $p(0)$, (ii) $p(3)$.

76. If $f(t) = 4t^2 - 3t + 6$, find (i) $f(0)$, (ii) $f(4)$.

77. Verify that:

(i) 4 is a zero of the polynomial $p(x) = x - 4$.

(ii) -3 is a zero of the polynomial $q(x) = x + 3$.

78. Find the zero of the polynomial:

(i) $p(x) = x - 5$

(ii) $q(x) = x + 4$

(iii) $p(t) = 2t - 3$

79. If 2 and 0 are the zeros of the polynomial $f(x) = 2x^3 - 5x^2 + ax + b$ then find the values of a and b .

Hint $f(2) = 0$ and $f(0) = 0$.

80. Verify the division algorithm for the polynomials $p(x) = 2x^4 - 6x^3 + 2x^2 - x + 2$ and $g(x) = x + 2$.

81. Using factor theorem, show that:

$(x - 1)$ is a factor of $(2x^4 + 9x^3 + 6x^2 - 11x - 6)$.

82. Find the value of k for which $(x - 1)$ is a factor of $(2x^3 + 9x^2 + x + k)$.

83. Find the value of a for which $(x - 4)$ is a factor of $(2x^3 - 3x^2 - 18x + a)$.

84. If $(x^3 + ax^2 + bx + 6)$ has $(x - 2)$ as a factor and leaves a remainder 3 when divided by $(x - 3)$, find the values of a and b .

85. Find the values of a and b so that the polynomial $(x^3 - 10x^2 + ax + b)$ is exactly divisible by $(x - 1)$ as well as $(x - 2)$.

86. Without actual division, prove that $2x^4 - 5x^3 + 2x^2 - x + 2$ is divisible by $x^2 - 3x + 2$.

87. If $(x + 5)$ is a factor of $p(x) = x^3 - 20x + 5k$, then $k = ?$

88. Write the axis on which the given point lies.

(i) $(3, 0)$ (ii) $(0, -4)$ (iii) $(-9, 0)$ (iv) $(0, -2)$

89. In which quadrant does the point $(-7, -4)$ lie?

90. The perpendicular distance of the point $A(3, 4)$ from the y -axis is _____.

91. Which of the following points lies on the line $y = 2x + 3$?

(a) $(2, 8)$ (b) $(3, 9)$ (c) $(4, 12)$ (d) $(5, 15)$

92. The area of ΔAOB having vertices $A(0, 6)$, $O(0, 0)$ and $B(6, 0)$ is _____.

93. The area of ΔAOB having vertices $A(0, 6)$, $O(0, 0)$ and $B(6, 0)$ is _____.

94. If in coordinates of a point $B(3, -2)$, signs of both coordinates are interchanged, then it will lie in which quadrant ?

95. Find distances of points $C(-3, -2)$ and $D(5, 2)$ from x -axis and y -axis.

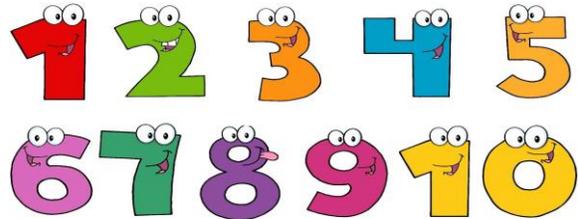
96. Find the values of x and y , if two ordered pairs $(x - 3, -6)$ and $(4, x + y)$ are equal

97. Without plotting the points indicate the quadrant in which they lie, if :

(i) ordinate is 5 and abscissa is -3

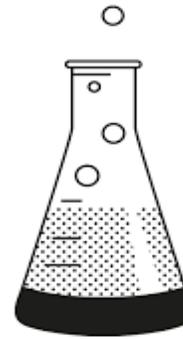
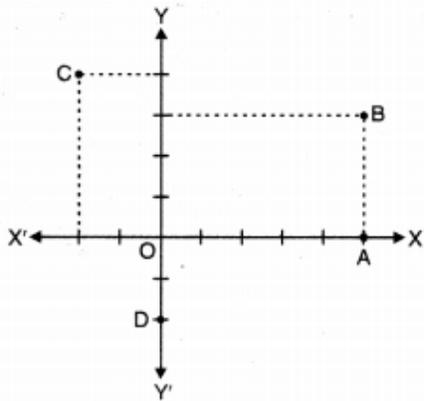
(ii) abscissa is -5 and ordinate is -3

98. Write the value of ordinate of all the points lie on x -axis.



99. Write the value of abscissa of all the points lie on y-axis.

100. Write the coordinates of A, B, C and D from the figure given alongside.



SCIENCE

- Make a Powerpoint presentation on the topic 'Fundamental Unit of Life: Cell'.
- Plot the various graphs related to 'Motion' Chapter and make a beautiful report on it.
- Why a widespread of a disease occurs? How it can be cured?
Explore taking example of COVID-19. Make a handmade file and write about it.

<https://youtu.be/ZM8ECpBuQYE> (Motion in a Straight line) Chapter 8

<https://youtu.be/bpFK2VCRHUs> (Uniform Circular Motion) Chapter 8

SOCIAL SCIENCE

- Make a Project File on 'Democracy v/s Dictatorship'.
- Do the case study of six different countries.



Students should summarise each video in five points and can pick any video and use the content to make a Powerpoint Presentation.

<https://www.youtube.com/watch?v=SKj4cr2C-3o&list=PL8dPuualjXtNjascl-WajpONGX3zoY4M> (World History)

<https://www.youtube.com/watch?v=Di5vJwH0VZ8&list=PL8dPuualjXtO85SI24rSiVQ93q7vcntNF>
(Geography Basics)

https://youtu.be/Vufba_ZcoR0 French Revolution

<https://youtu.be/zhL5DCizj5c> Industrial Revolution

<https://youtu.be/alJaltUmrGo> Imperialism

<https://youtu.be/y9HjvHZfCUI> The Cold War

https://youtu.be/T_sGTspaF4Y Decolonization

